APPENDIX E

Commentary

IN THIS CASE, A CAFFEINE POISONING IS A SCIENTIFIC IMPOSSIBILITY:

At the time of Tegan's death, extensive toxicology tests were performed which found harmless levels of caffeine, less than 5% of a lethal amount, less than found in two cups of coffee. The recognized average lethal level of caffeine in the liver is **241** and in the kidney at **184**. Appendix D, App. p. 30. Evans Affidavit. However, the West Virginia Supreme Court has affirmed a conviction for a caffeine poisoning where the caffeine levels are twenty times lower than the recognized lethal levels. The State Court in its opinion states:

> "Although this Court's ability to interpret spectrographic graphs, figures, and charts is somewhat limited, an effort has been made to locate the toxicology report and the spectrographic results in issue. In this Courts' view, the figures and numbers on the spectrograph records do appear to confirm key values set in the toxicology report. For instance, the toxicology reports set forth a caffeine concentration in the liver of "**9.04.**" A spectrograph sheet labeled "Liver" has a calculation which concludes "9.04." The toxicology report sets forth a caffeine concentration in the kidney of "**11.06.**" There is a spectrographic sheet labeled "Kidney" which concludes: "11.06." The same correspondence exists with brain and bile values."

According to toxicologists, the amount and the distribution of the caffeine provide conclusive proof of innocence. On a post trial, joint submission by both the State

and the Defendant, Dr. Michael Evans, toxicologist of A.I.T. Laboratories of Indianapolis was chosen as a neutral expert witness. He reviewed the withheld spectrographs on Tegan and compared the amounts now published by the Court with published levels of lethality and by affidavit found the following:

DR. EVAN'S CHART

Specimen	Tegan Davis Caffeine Conc.	Caffeine Lethality Mean Caffeine Conc.	Percent of lethal level
Blood	66 ug/ml	183 ug/ml	36%
Brain	5.56 mg/kg	114 mg/kg	4.9%
Liver	9.04 mg/kg	241 mg/kg	3.6%
Kidney	11.06 mg/kg	184 mg/kg	6.0%

The Evans Affidavit is attached as Appendix D (Chart is on App. 30).

In the far right column, Dr. Evans places the values published by the West Virginia Court in Tegan's liver and kidney at only 3.6% and 6.0% of a lethal level. Less than 5% of a lethal level is found in the vital organ of the brain. Dr. Evans computes the total amount of caffeine in Tegan's entire body at less than found in "two cups of coffee." (Par. 8, App. 35, 36) Dr. Art Hupka, toxicologist and pharmacologist for the defense, also reviewed these same spectrographs and placed the total caffeine found at around "one and a half cups of coffee." Dr. James Shipe, the defense trial expert from the University of Virginia, testified that the levels were only at 5% of lethality. Three toxicologists, working independently of each other, one on a joint submission by the State and defendant, have compared this data with known levels of caffeine lethality and have

concluded that a caffeine poisoning in this case is not possible. The West Virginia Supreme Court is affirming a conviction of a murder by caffeine poisoning on less caffeine than had the child consumed a coca cola or two cups of coffee.

An earlier, higher amount is not possible due to the distribution. The universal laws of science of drug distribution bar the caffeine from being higher in this time frame. The West Virginia Court notes: "The spectrographic results would have shown that the caffeine level was lower in Tegan's tissue than in her body fluids." (Blood). In fact, the official toxicology report shows the caffeine in the tissues was ten times less than in the blood.

Caffeine moves through the body by diluting from a higher concentration to a lower concentration. When it is more highly concentrated in the blood than in the tissue, the caffeine has to be going from the blood to the tissue. In this case, with the caffeine concentration ten times lower in the tissue, most of the caffeine in the blood never reached the tissue. Since it is going into the tissue, the amount of caffeine in the tissue is at its highest level. Scientifically it can not have been higher in this time frame. This is a rule of science. This principle is explained by Dr. Art Hupka, toxicologist. (Hupka Deposition P.22).

Q: "Why could it" (the caffeine) "not have been higher?"

A. "Well, if I can explain a few concepts that will be easily understandable, if you will, of chemicals and fluids that they move from higher concentrations, greater amounts, to areas where there's smaller amounts, the opposite doesn't happen. So in Tegan we had a blood level, that is we had the greater amount of the substance there, would

> naturally move from the blood to the tissue, it couldn't be going from the tissues to the blood and have a higher concentration, so basically that high concentration that was in the blood at that point in time couldn't have been higher."

Drs. Hupka and Evans, both agree this unusual distribution of caffeine in Tegan is explained by an unrecorded injection of caffeine by health care personnel at the time of Tegan's death to stimulate breathing, a purpose for which caffeine was used in 1982. (Appendix D Evans Affidavit App. 36, 37.) Only if the caffeine is increased ten times, or 1000% in the tissue can the flow of caffeine be reversed. Only if the flow is reversed, can a higher earlier lethal amount become scientifically possible. The West Virginia Court has now verified the accuracy of the data that makes a caffeine poisoning a scientific impossibility

This case is scientifically very simple. No one has ever died of this little caffeine.